



THE USE OF METERED-DOSE INHALER VERSUS NEBULIZATION FOR THE DELIVERY OF SALBUTAMOL IN PEDIATRIC SEVERE ASTHMA EXACERBATIONS: A SYSTEMATIC REVIEW

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INTRODUCTION

Recent guidelines for the management of asthma have advocated the use of a pressurized metered-dose inhaler (MDI) and spacer in the delivery of salbutamol. However, there has been some resistance to this movement partly due to the misperception that there is better drug delivery through nebulization. The lack of information is most prominent in pediatric severe asthma.

OBJECTIVE

To compare the effectiveness of **MDI with spacers** versus **nebulizers** in drug delivery of salbutamol for the management of pediatric severe asthma exacerbations

METHODOLOGY

A systematic search of the Pubmed, Cochrane library, Herdin, WPRIM, ClinicalTrials and reference review was conducted for randomized trials containing "severe asthma" using MDI and spacer as an intervention with nebulization as a comparator. The main outcomes were hospital admission and pulmonary scores.

RESULT

Of 220 articles identified, 4 met the inclusion and exclusion criteria. In the analysis, children who received salbutamol through MDI showed **NO STATISTICALLY SIGNIFICANT DIFFERENCE** in the following:

1. hospital admission
2. pulmonary score,
3. heart rate, respiratory rate, oxygen saturation,
4. lung function test
5. side effects.

CONCLUSION

In severe asthma exacerbations, the use of an MDI for the delivery of salbutamol is an acceptable alternative to the nebulizer

RECOMMENDATION

Further randomized controlled trials are suggested to explore the intricacies of drug delivery in management of severe asthma. A meta-analysis may be made possible in the future with more evidence.

KEYWORDS : severe asthma, metered-dose inhaler, spacer, nebulizer, salbutamol

